

What is claimed is:

1. A method of manufacturing a concave meniscus lens having a first surface comprising a convex surface shape and a second surface comprising a concave surface shape with a pair of upper and lower pressing molds having opposed molding surfaces by press molding a glass material in a heat-softened state; characterized by:

feeding a glass material that has been heated to a prescribed temperature between the molding surfaces of the preheated upper and lower pressing molds and press molding the glass material to obtain a temporary lens;

correcting the temperature of the glass material to lower than a prescribed temperature when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is smaller than the radius of curvature of the center portion thereof, and molding a corrected lens under the conditions applying the corrected temperature of the glass material;

correcting the temperature of the glass material to higher than a prescribed temperature when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is greater than the radius of curvature of the center portion thereof, and molding a corrected lens under the conditions applying the corrected temperature of the glass material;

subsequently molding the original lens under the conditions applying the corrected temperature of glass material when the irregularity of the corrected lens obtained falls within a permitted range; and

repeating the temperature correction of the glass material and molding of the corrected lens when the irregularity of the corrected lens obtained falls outside the permitted range until the irregularity of the corrected lens obtained falls within the permitted range.

2. A method of manufacturing a concave meniscus lens having a first surface comprising a convex surface shape and a second surface comprising a concave surface

shape with a pair of upper and lower pressing molds having opposed molding surfaces by press molding a glass material in a heat-softened state; characterized by:

feeding a glass material that has been heated to a prescribed temperature between the molding surfaces of the upper and lower pressing molds that have been preheated to a prescribed temperature and press molding the glass material to obtain a temporary lens;

correcting the preheating temperature of the upper and lower molds to lower than a prescribed temperature when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is smaller than the radius of curvature of the center portion thereof, and molding a corrected lens under the conditions applying the corrected pressing mold temperature;

correcting the preheating temperature of the upper and lower molds to higher than a prescribed temperature when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is greater than the radius of curvature of the center portion thereof, and molding a corrected lens under the conditions applying the corrected pressing mold temperature;

subsequently molding the original lens under the conditions applying the corrected pressing mold temperature when the irregularity of the corrected lens obtained falls within a permitted range; and

repeating correction of the pressing mold temperature and molding of the corrected lens when the irregularity of the corrected lens obtained falls outside the permitted range until the irregularity of the corrected lens obtained falls within the permitted range.

3. A method of manufacturing a concave meniscus lens having a first surface comprising a convex surface shape and a second surface comprising a concave surface shape with a pair of upper and lower pressing molds having opposed molding surfaces by press molding a glass material in a heat-softened state; characterized by:

feeding a heated glass material between the molding surfaces of the upper and lower pressing molds that have been preheated to prescribed temperatures and press molding the glass material to obtain a temporary lens;

correcting by lowering the preheating temperature of the mold forming the second surface, or correcting by raising the preheating temperature of the mold forming the first surface, when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is smaller than the radius of curvature of the center portion thereof, and molding a corrected lens under the conditions applying the corrected pressing mold temperature;

correcting by raising the preheating temperature of the mold forming the second surface, or correcting by lowering the preheating temperature of the mold forming the first surface, when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is greater than the radius of curvature of the center portion thereof, and molding a corrected lens under the condition applying the corrected pressing mold temperature;

subsequently molding the original lens under the condition applying the corrected pressing mold temperature when the irregularity of the corrected lens obtained falls within a permitted range; and

repeating the pressing mold temperature correction and molding of the corrected lens when the irregularity of the corrected lens obtained falls outside the permitted range until the irregularity of the corrected lens obtained falls within the permitted range.

4. A method of manufacturing a concave meniscus lens having a first surface comprising a convex surface shape and a second surface comprising a concave surface shape with a pair of upper and lower pressing molds having opposed molding surfaces by press molding a glass material in a heat-softened state; characterized by:

feeding a heated glass material between the molding surfaces of the preheated upper and lower pressing molds and cooling the upper and lower molds at prescribed cooling rates and press molding the glass material to obtain a temporary lens;

correcting by increasing the cooling rate of the mold forming the second surface or by decreasing the cooling rate of the mold forming the first surface when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is smaller than the radius of curvature of

the center portion thereof, and molding a corrected lens under the condition applying the corrected cooling rate;

correcting by decreasing the cooling rate of the mold forming the second surface or by increasing the cooling rate of the mold forming the first surface when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is greater than the radius of curvature of the center portion thereof, and molding a corrected lens under the condition applying the corrected cooling rate;

subsequently molding the original lens under the condition applying the corrected cooling rate when the irregularity of the corrected lens obtained falls within a permitted range; and

repeating the correction of the cooling rate and molding of the corrected lens when the irregularity of the corrected lens obtained falls outside the permitted range until the irregularity of the corrected lens obtained falls within the permitted range.

5. A method of manufacturing a concave meniscus lens having a first surface comprising a convex surface shape and a second surface comprising a concave surface shape with a pair of upper and lower pressing molds having opposed molding surfaces by press molding a glass material in a heat-softened state; characterized by:

conducting press molding comprising feeding a heated glass material between the molding surfaces of the preheated upper and lower pressing molds and immediately applying pressure for a first time at a prescribed load, and once cooling has begun, applying pressure for a second time at a prescribed load smaller than that of the pressure application for the first time to obtain a temporary lens;

correcting by making the load of the second pressure application greater than the above prescribed load when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is smaller than the radius of curvature of the center portion thereof, and molding a corrected lens under the condition applying the corrected load;

correcting by making the load of the second pressure application smaller than the above prescribed load when an irregularity is produced where the radius of curvature of the peripheral portion of the first or second surface of the temporary lens obtained is greater than the radius of curvature of the center portion thereof, and molding a corrected lens under the condition applying the corrected load;

subsequently molding the original lens by applying the corrected load when the irregularity of the corrected lens obtained falls within a permitted range; and

repeating the load correction and molding of the corrected lens when the irregularity of the corrected lens obtained falls outside the permitted range until the irregularity of the corrected lens obtained falls within the permitted range.

6. The method of manufacturing according to claim 1, wherein the concave meniscus lens has a spherical surface on the first surface and the correction of molding condition is conducted by determining the irregularity of the first surface of the temporary lens obtained.

7. The method of manufacturing according to claim 2, wherein the concave meniscus lens has a spherical surface on the first surface and the correction of molding condition is conducted by determining the irregularity of the first surface of the temporary lens obtained.

8. The method of manufacturing according to claim 3, wherein the concave meniscus lens has a spherical surface on the first surface and the correction of molding condition is conducted by determining the irregularity of the first surface of the temporary lens obtained.

9. The method of manufacturing according to claim 4, wherein the concave meniscus lens has a spherical surface on the first surface and the correction of molding condition is conducted by determining the irregularity of the first surface of the temporary lens obtained.

10. The method of manufacturing according to claim 1, wherein the first or second surface of the concave meniscus lens has an aspherical surface.
11. The method of manufacturing according to claim 2, wherein the first or second surface of the concave meniscus lens has an aspherical surface.
12. The method of manufacturing according to claim 3, wherein the first or second surface of the concave meniscus lens has an aspherical surface.
13. The method of manufacturing according to claim 4, wherein the first or second surface of the concave meniscus lens has an aspherical surface.